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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,840	08/23/2001	Yoshitaka Fujita	FQ5-561	8505
466	7590	09/28/2005	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			RYMAN, DANIEL J	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/934,840	Applicant(s) FUJITA, YOSHITAKA	
	Examiner Daniel J. Ryman	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 1, 4, 6 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/23/01; 7/25/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 7/25/2003 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: ref. 501. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: on page 3, lines 20-21, "packet and; and" should be "packet; and".

Appropriate correction is required.

Claim Objections

4. Claims 1 and 12 are objected to because of the following informalities: in line 11 of claim 1 and line 14 of claim 12, "packet and; and" should be "packet; and". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 recites the limitation "a packet" in line 22. It is unclear from this limitation if the packet is a network-layer packet or a PPP data packet.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 5, 7, 8, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modarressi et al. (USPN 6,667,971) in view of Araujo et al. (USPN 6,118,785).
9. Regarding claims 1 and 12, Modarressi discloses an access network system comprising: a plurality of subscriber computers (ref. 102) (Fig. 2); a plurality of Remote ADSL Transceiver Units (ATU-Rs) each connected to the subscriber computers (ref. 104) (Fig. 2); a plurality of

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Digital Subscriber Line Access Multiplexers (DSLAMs) (ref. 106), each of which accommodates a plurality of ATU-Rs (Fig. 2); an access gateway (ref. 202) to a backbone network, the access gateway accommodating a plurality of DSLAMs (Fig. 2), wherein the access gateway comprises: a first interface to a corresponding Digital Subscriber Line Access Multiplexer (DSLAM) (interface between ref. 106 and 202) (Fig. 2; col. 1, lines 43-52; and col. 2, lines 58-65); a second interface to the backbone network (interface between ref. 202 and 110, 206, or 208) (Fig. 2; col. 1, lines 43-52; and col. 2, lines 58-65); a Point-to-Point Protocol (PPP) link controller for establishing and disconnecting a PPP link with an ATU-R (Fig. 2 and col. 3, lines 23-37) where it is implicit that the use of a PPP link requires a PPP link controller for establishing and disconnecting a PPP link; a header processor, for converting between a network-layer packet and a PPP data packet including the network-layer packet (Fig. 2 and col. 3, lines 15-37) where it is implicit that IP forwarding that occurs in the service gateway requires a header processor for converting between a network-layer packet (IP packet) and a PPP data packet; and a switch for switching a connection among the first interface, the second interface, the PPP link controller, and the header processor (col. 3, lines 15-22) where forwarding a message to the correct NSP requires a switch.

Modarressi does not expressly disclose that the switch switches a connection depending on which one of a PPP data packet and a link control packet is inputted, wherein the link control packet is used for link establishment and disconnection. However, Modarressi implicitly teaches using a switch (col. 3, lines 15-22) and transmitting signaling information over the PPP link (col. 3, lines 24-30). Araujo teaches, in a PPP communication system, using the protocol field of a PPP packet to transmit signaling information where the node processes the packet according to

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the signaling information (col. 1, lines 37-42; col. 3, lines 8-11; col. 3, lines 28-34; and col. 6, lines 52-61). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to switch the connection depending on which one of a PPP data packet and a link control packet is inputted, wherein the link control packet is used for link establishment and disconnection in order to process the PPP data packet and the PPP link control packet differently.

10. Regarding claim 2, Modarressi discloses a Point-to-Point Protocol (PPP) termination device (ref. 202) in an access network system by which a subscriber gets access to a backbone network, comprising: a first interface (interface between ref. 106 and 202) for input line and outputting PPP packets in Asynchronous Transfer Mode (ATM) cells from and to a corresponding Digital Subscriber Line Access Multiplexer (DSLAM) (Fig. 2; col. 1, lines 43-52; and col. 2, lines 58-65); a second interface (interface between ref. 202 and 110, 206, or 208) for inputting and outputting network-layer packets in ATM cells from and to the backbone network (Fig. 2; col. 1, lines 43-52; and col. 2, lines 58-65); a PPP link controller for establishing and disconnecting a PPP link (Fig. 2 and col. 3, lines 23-37) where it is implicit that the use of a PPP link requires a PPP link controller for establishing and disconnecting a PPP link; a packet processor for converting between a network-layer packet and a PPP data packet including the network-layer packet and controlling cell forwarding (Fig. 2 and col. 3, lines 15-37) where it is implicit that IP forwarding that occurs in the service gateway requires a packet processor for converting between a network-layer packet (IP) and a PPP data packet including the network-layer packet and controlling cell forwarding; and a switch for switching a connection among the first interface, the second interface, the PPP link controller, and the packet processor (col. 3, lines 15-22) where forwarding a message to the correct NSP requires a switch.

Modarressi does not expressly disclose that the switch switches a connection depending on which one of a PPP data packet and a link control packet is inputted, wherein the link control packet is used for link establishment and disconnection. However, Modarressi implicitly teaches using a switch (col. 3, lines 15-22) and transmitting signaling information over the PPP link (col. 3, lines 24-30). Araujo teaches, in a PPP communication system, using the protocol field of a PPP packet to transmit signaling information where the node processes the packet according to the signaling information (col. 1, lines 37-42; col. 3, lines 8-11; col. 3, lines 28-34; and col. 6, lines 52-61). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to switch the connection depending on which one of a PPP data packet and a link control packet is inputted, wherein the link control packet is used for link establishment and disconnection in order to process the PPP data packet and the PPP link control packet differently.

Modarressi in view of Araujo does not expressly disclose that the switch is an ATM switch. However, Modarressi in view of Araujo does disclose that the data enters and leaves the termination device as ATM cells (Modarressi: Fig. 2). Modarressi in view of Araujo also discloses that the signaling channel can be processed using an ATM switch (Araujo: col. 7, lines 47-50). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an ATM switch since the data is transmitted using ATM cells.

11. Regarding claim 3, Modarressi in view of Araujo suggests that the packet processor comprises: a header processor and a first AAL5-SAR ATM Adaptation Layer type 5 - Segmentation And Reassembly) section (Modarressi: Fig. 2 and Araujo: Fig. 5; col. 8, lines 10-13; and col. 8, line 53-col. 9, line 11), wherein the header processor determines which one of a PPP data packet in ATM cells and a link control packet in ATM cells is inputted from the first

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interface through the first AAL5-SAR section (Araujo: col. 1, lines 37-42; col. 3, lines 8-11; col. 3, lines 28-34; and col. 6, lines 52-61) and, when the PPP data packet has been inputted through the first AAL5-SAR section, generates a network-layer packet by removing a PPP header of the PPP data packet, and the first AAL5-SAR Section segments the network-layer packet into ATM cells to be forwarded to the second interface by the ATM switch (Modarressi: Fig. 2 and Araujo: Fig. 5; col. 8, lines 10-13; and col. 8, line 53-col. 9, line 11).

12. Regarding claim 5, Modarressi in view of Araujo discloses that when receiving a network-layer packet in ATM cells from the backbone network, the packet processor performs PPP encapsulation to generate a PPP data packet from the network-layer packet and the first AAL5-SAR section segments the PPP data packet into ATM cells to be forwarded to the first interface by the ATM switch (Modarressi: Fig. 2 and Araujo: Fig. 5; col. 8, lines 10-13; and col. 8, line 53-col. 9, line 11).

13. Regarding claim 7, Modarressi discloses a Point-to-Point Protocol (PPP) termination device (ref. 202) in an access network system by which a subscriber gets access to a backbone network, comprising; a first interface (interface between ref. 106 and 202) for inputting and outputting PPP packets over SONET (Synchronous Optical NETwork) from and to a corresponding Digital Subscriber Line Access Multiplexer (DSLAM) (Fig. 2; col. 1, lines 43-52; and col. 2, lines 58-65), wherein the first interface includes a first packet processor for converting between a packet and ATM cells and controlling cell forwarding (Fig. 2 and col. 3, lines 15-37) where it is implicit that IP forwarding that occurs in the service gateway requires a packet processor for converting between a network-layer packet (IP) and ATM cells including the network-layer packet and controlling cell forwarding; a second interface (interface between

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ref. 202 and 110, 206, or 208) for inputting and outputting network-layer packets over SONET from and to the backbone network (Fig. 2; col. 1, lines 43-52; and col. 2, lines 58-65), wherein the second interface includes a second packet processor for converting between a network-layer packet and a PPP data packet including the network-layer packet, converting between a packet and ATM cells, and controlling cell forwarding (Fig. 2 and col. 3, lines 15-37) where it is implicit that IP forwarding that occurs in the service gateway requires a packet processor for converting between a network-layer packet (IP) and a PPP data packet including the network-layer packet, converting between a packet and ATM cells, and controlling cell forwarding; a PPP link controller for establishing and disconnecting a PPP link (Fig. 2 and col. 3, lines 23-37) where it is implicit that the use of a PPP link requires a PPP link controller for establishing and disconnecting a PPP link; and a switch for switching a connection among the first interface, the second interface, and the PPP link controller, (col. 3, lines 15-22) where forwarding a message to the correct NSP requires a switch.

Modarressi does not expressly disclose that the switch switches a connection depending on which one of a PPP data packet and a link control packet is inputted, wherein the first interface includes a first packet processor for determining which one of a PPP data packet and a link control packet is inputted. However, Modarressi implicitly teaches using a switch (col. 3, lines 15-22) and transmitting signaling information over the PPP link (col. 3, lines 24-30). Araujo teaches, in a PPP communication system, using the protocol field of a PPP packet to transmit signaling information where the node processes the packet according to the signaling information (col. 1, lines 37-42; col. 3, lines 8-11; col. 3, lines 28-34; and col. 6, lines 52-61). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to

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switch the connection depending on which one of a PPP data packet and a link control packet is inputted, wherein the first interface includes a first packet processor for determining which one of a PPP data packet and a link control packet is inputted in order to process the PPP data packet and the PPP link control packet differently.

Modarressi in view of Araujo does not expressly disclose that the switch is an ATM switch. However, Modarressi in view of Araujo does disclose that the data enters and leaves the termination device as ATM cells (Modarressi: Fig. 2). Modarressi in view of Araujo also discloses that the signaling channel can be processed using an ATM switch (Araujo: col. 7, lines 47-50). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an ATM switch since the data is transmitted using ATM cells.

14. Regarding claim 8, Modarressi in view of Araujo suggests that the first packet processor comprises: a first header processor; and a first AAL5-SAR (ATM Adaptation Layer type 5 - Segmentation And Reassembly) section (Modarressi: Fig. 2 and Araujo: Fig. 5; col. 8, lines 10-13; and col. 8, line 53-col. 9, line 11), wherein the first header processor determines which one of a PPP data packet and a link control packet is inputted from the first interface and, when the PPP data packet has been inputted (Araujo: col. 1, lines 37-42; col. 3, lines 8-11; col. 3, lines 28-34; and col. 6, lines 52-61), generates a network-layer packet by removing a PPP header of the PPP data packet and the first AAL5-SAR section segments the network-layer packet into ATM cells to be forwarded to the second interface by the ATM switch (Modarressi: Fig. 2 and Araujo: Fig. 5; col. 8, lines 10-13; and col. 8, line 53-col. 9, line 11).

15. Regarding claim 10, Modarressi in view of Araujo suggests that the second packet processor comprises; a second header processor; and a second AALS-SAR section, wherein,

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when receiving a network-layer packet over SONET from the backbone network, the second header processor performs PPP encapsulation to generate a PPP data packet from the network-layer packet and the second AAL5-SAR section segments the PPP data packet into ATM cells to be forwarded to the first interface by the ATM Switch (Modarressi: Fig. 2 and Araujo: Fig. 5; col. 8, lines 10-13; and col. 8, line 53-col. 9, line 11).

Allowable Subject Matter

16. Claims 4 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest segmenting the link control packet into ATM cells to be forwarded to the PPP link controller by the ATM switch. Rather, the prior art suggests transmitting the link control packet to the controller as a single PPP packet. Applicant's method requires the link packet (a signaling message destined for the node) to be constructed twice within the node since Applicant's method assembles the link packet from ATM cells received at the node, segments the packet into ATM cells for transmission over the switch contained in the node, and then reassembles the cells to obtain the link control packet at the node's PPP link controller.

17. Claims 9 and 11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest segmenting the link control packet into ATM cells to be forwarded to the PPP link controller by the ATM switch. Rather, the prior art suggests transmitting the link control packet to the controller as a single PPP packet. Applicant's method requires the link packet (a signaling

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message destined for the node) to be constructed twice within the node since Applicant's method assembles the link packet from ATM cells received at the node, segments the packet into ATM cells for transmission over the switch contained in the node, and then reassembles the cells to obtain the link control packet at the node's PPP link controller.

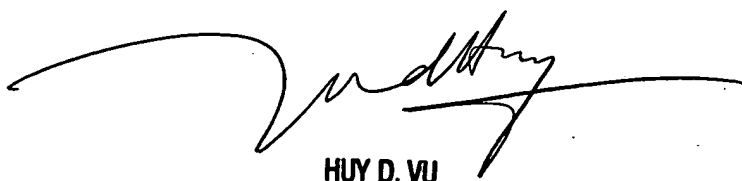
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665



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